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Award Number: W81XWH-04-1-0159

TITLE: Preventing Health Damaging Behaviors and Negative Health Outcomes in Army and Marine Corps Personnel during the First Tour of Duty

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REPORT DATE: January 2007

TYPE OF REPORT: Annual

PREPARED FOR: U.S. Army Medical Research and Materiel Command  
Fort Detrick, Maryland 21702-5012

DISTRIBUTION STATEMENT: Approved for Public Release;  
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<b>REPORT DOCUMENTATION PAGE</b>				Form Approved OMB No. 0704-0188	
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<b>1. REPORT DATE</b> 01-01-2007		<b>2. REPORT TYPE</b> Annual		<b>3. DATES COVERED</b> 1 Jan 2006 – 31 Dec 2006	
<b>4. TITLE AND SUBTITLE</b>  Preventing Health Damaging Behaviors and Negative Health Outcomes in Army and Marine Corps Personnel during the First Tour of Duty				<b>5a. CONTRACT NUMBER</b>	
				<b>5b. GRANT NUMBER</b> W81XWH-04-1-0159	
				<b>5c. PROGRAM ELEMENT NUMBER</b>	
<b>6. AUTHOR(S)</b>  Cherrie B. Boyer, Ph.D. Mary-Ann Shafer, M.D.  Email: <a href="mailto:BoyerC@peds.ucsf.edu">BoyerC@peds.ucsf.edu</a> ; <a href="mailto:ShaferM@peds.ucsf.edu">ShaferM@peds.ucsf.edu</a>				<b>5d. PROJECT NUMBER</b>	
				<b>5e. TASK NUMBER</b>	
				<b>5f. WORK UNIT NUMBER</b>	
<b>7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES)</b>  University of California, San Francisco San Francisco, CA 94143-0962				<b>8. PERFORMING ORGANIZATION REPORT NUMBER</b>	
<b>9. SPONSORING / MONITORING AGENCY NAME(S) AND ADDRESS(ES)</b> U.S. Army Medical Research and Materiel Command Fort Detrick, Maryland 21702-5012				<b>10. SPONSOR/MONITOR'S ACRONYM(S)</b>	
				<b>11. SPONSOR/MONITOR'S REPORT NUMBER(S)</b>	
<b>12. DISTRIBUTION / AVAILABILITY STATEMENT</b> Approved for Public Release; Distribution Unlimited					
<b>13. SUPPLEMENTARY NOTES</b>					
<b>14. ABSTRACT</b> Health damaging behaviors of young military personnel are reflections of health problems facing all young people in the U.S. Military life presents opportunities and challenges that may both protect and place young troops at risk for health damaging behaviors. Challenges for maintaining a healthy armed force include high rates of sexually transmitted infections (STIs), unintended pregnancies (UIPs), misuse of alcohol/substances, and personal sexual violence defined as violence within one's personal (dating or marital) relationships. The common thread through these negative health outcomes is volitional behavior. Such behaviors do not only result in illness or injury, but also negatively impact performance of military duties and threaten military readiness. Despite military leadership in setting standards and policies regarding professional behavior and universal health care for preventing and eliminating such negative health outcomes, many health problems remain. Building on our previous military research, we plan to develop and evaluate a cognitive-behavioral, skills-building intervention to prevent and reduce young troops' risk for STIs, UIPs, alcohol/substance misuse, and personal sexual violence. This research also seeks to establish the best training practices for educating young troops about health issues that impact military performance and readiness. Finally, it will have direct implications for health promotion and disease prevention education strategies designed to reach military men and women early in their careers.					
<b>15. SUBJECT TERMS</b> Health Promotion; Disease Prevention; Education and Intervention					
<b>16. SECURITY CLASSIFICATION OF:</b>			<b>17. LIMITATION OF ABSTRACT</b>  UU	<b>18. NUMBER OF PAGES</b>  16	<b>19a. NAME OF RESPONSIBLE PERSON</b> USAMRMC
<b>a. REPORT</b> U	<b>b. ABSTRACT</b> U	<b>c. THIS PAGE</b> U			<b>19b. TELEPHONE NUMBER</b> (include area code)

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### 3. INTRODUCTION

The proposed study will utilize a group, randomized controlled study design to evaluate the effectiveness of a cognitive-behavioral intervention to: (1) prevent sexually transmitted infections (STIs), unintended pregnancies (UIPs), alcohol and other substance misuse, and exposure to or involvement with personal sexual violence among Army recruits; (2) reduce participants' risk for STIs, UIPs, alcohol and other substance misuse, and exposure to or involvement with personal sexual violence by (a) decreasing gaps in knowledge and misperceptions about risk and prevention, (b) increasing motivation to change risk behaviors, (c) building effective skills to engage in health promoting behaviors, (d) decreasing sexual risk behavior; and (3) determine the best strategy for educating participants about the sensitive health matters such as STIs, UIPs, alcohol and other substance misuse, and exposure to or involvement with personal sexual violence. Additionally, all participants will complete self-administered questionnaires and will be screened for STIs (*C. trachomatis* and *N. gonorrhoeae*) at baseline and 12 months post-intervention and will be screened for pregnancy/UIP at 12 months.

### 4. BODY

With approval from our then government officer of record (GOR), COL Brian Luke, USAMRMC to pursue our research project solely within the U.S. Marine Corps we contacted the First Marine Expeditionary Force (I MEF) at Camp Pendleton, CA, (September 2005). Our contact was **LCDR Janet Spira** of the I MEF. After numerous interactions and tremendous interest and in the potential health benefits of our proposed intervention, at the request of LCDR Spira we sent a written brief to the Commanding General of I MEF. Despite tremendous interest and months of electronic and telephone communication, LCDR Spira informed us that her Surgeon General (no specific name was provided) declined participation in our study at this time due to the I MEF's significant preparations for deployment and the large number of troops who are currently deployed, despite their interest in the intervention. Since we no longer had an opportunity to conduct our proposed research with Marine Corps personnel from the I MEF, we were then provided the opportunity to speak with **LTC Michael Reiss**, USAMEDD, USJFCOM, Science and Technology Division, Capabilities Development Directorate, HQ TRADOC (July 2006). Subsequently, LTC Reiss arranged a conference call with **LTC Sonya Corum**, TRADOC Research & Analysis Dietitian, Directorate of BCT, Fort Jackson, SC (July 2006). As a result of several conference calls with LTC Corum, Drs. Boyer and Shafer and **MAJ Lolita Burrell**, WAMC-Ft Bragg, a co-investigator on this proposed research and our current GOR, were invited to Fort Jackson to brief **COL Thomas Hayden**, Deputy Commanding Officer, Headquarters, U.S. Army Training Center and Fort Jackson Office of the Commanding General, Fort Jackson (August 2006). Our brief with Col Haden led to a subsequent brief with **COL James Mundy**, Commander, Moncrief Army Community Hospital, Fort Jackson, and members of his staff, **COL Kathleen Dunemn**, and **LTC Larry Andreo** (October 2006). Additionally, at the request of COL Mundy, we submitted an electronic brief (a Microsoft PowerPoint slide set, which describes the proposed research plan) to **MAJ GEN Eric Schoomaker**, Medical Corps, Commanding General, U.S. Army Medical Research and Materiel Command, Fort Detrick (December 2006). **See Attachment 1 for a copy of the brief provided to COL Hayden, COL Mundy, and MAJ GEN Schoomaker.** As a result of the above mentioned briefs, we were recently granted permission by COL Hayden to initiate the first phased of the proposed study.

**See Attachment 2 for a copy of the letter of support from COL Hayden.** The U.S. Army Training Center is now the planned site for the implementation of the proposed research. The following statement of work (SOW) tasks now reflect this approved change in research venue. In addition to providing briefs as described above, we are currently in the process of revising protocols for submission to the University of California, San Francisco Committee on Human Research and the Human Subjects Research Review Board, U.S. Army Medical Research and Materiel Command (USAMRMC).

## **STATEMENT OF WORK (SOW)**

1. Brief commanding officers of the Department of the Army, Headquarters, U.S. Army Training Center and Fort Jackson, Fort Jackson, SC.
  - a. As described above, we have briefed COL Thomas Hayden, COL James Mundy, COL Dunemn, LTC Larry Andreo, and LTC Sonya Corum.

The following SOW tasks have not been completed, as they are contingent upon activities yet to be accomplished.

2. Conduct focus groups to assist in the development of: (1) comparable gender-specific interventions to reduce health damaging behaviors associated with sexually transmitted infections (STIs), unintended pregnancies (UIPs), alcohol and other substance misuse, and personal sexual violence; and (2) pre- and post-intervention self-administered questionnaires to assess knowledge, attitudes, and beliefs, and behaviors associated with STIs, UIPs, alcohol and other substance misuse, and personal sexual violence.
3. Develop comparable gender-specific interventions for male and female Army recruits to: (1) prevent acquisition of STIs and UIPs; and (2) reduce the risk of STI- and UIP-related behaviors including alcohol and other substance misuse, and personal sexual violence.
4. Pilot-test the gender-specific interventions, self-administered questionnaires, and the biological specimen collection protocol for feasibility.
5. Implement the intervention within the context of basic training.
6. Conduct a 12-month follow-up of intervention participants.
7. Evaluate the effectiveness of each gender-specific intervention and compare differences across interventions on study participants' acquisition of STIs and UIPs during their first year of military service.
8. Examine key sub-questions related to STIs and UIPs: (1) assess psychosocial, behavioral, and contextual factors associated with STIs and STI-related risk at baseline and STIs and UIPs at follow-up; (2) document the prevalence of personal sexual violence at basic training entry; (3) examine relationships among personal sexual violence, STIs, and STI-related risk at baseline and STIs and UIPs at follow-up; and (3) determine the relationship between

alcohol and other substance misuse and personal sexual violence and the relationship of these factors to STIs and STI-related risk at baseline and STIs and UIPS at follow-up.

9. Disseminate study findings through: (1) briefs given to participating military commands; (2) presentations at military-specific preventive medicine meetings as well as annual scientific meetings; and (3) publications submitted to scientific journals.

## **5. KEY RESEARCH ACCOMPLISHMENTS TO DATE**

Our research accomplishments to date include: (1) Identification of a suitable cohort in which to implement the proposed research (see description of these activities in the Body section above. (2) Examination of scientific literature and published interventions in order to identify elements of effective interventions to prevent STIs, UIPs, alcohol and other substance misuse, and personal sexual violence to guide the development of interventions in the proposed research (see our previous annual report dated January 20, 2006).

## **6. REPORTABLE OUTCOMES**

There are no reportable outcomes to date.

## **PROPOSED PROJECT ACTIVITIES:**

Our plans for the coming year include implementing SOW activities outlined in items 2-5 above. Specifically, we plan to conduct focus groups, finalize the proposed intervention curricula, and pilot-test the interventions, self-administered questionnaires, and the biological specimen collection protocol for feasibility in each command.

## **7. CONCLUSIONS**

There are no scientific conclusions that can be made at this time.

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## 9. APPENDICES

**Appendix 1:** PowerPoint Brief: entitled: Preventing Health Risks in Army Enlisted Personnel During Their First Year of Service (15 slides)

**Appendix 2:** Letter of Support from COL Thomas Hayden (1 page)

## **Preventing Health Risks In Army Enlisted Personnel During Their First Year of Service**

**Cherrie B. Boyer, PhD**

**Mary-Ann Shafer, MD**

**University of California, San Francisco**

**Major Lolita Burrell, PhD**

**USARIEM Medical Research Unit-FT Bragg**

## **Health Threats to Military Training and Readiness**

- Health risk behaviors among young military recruits and junior enlisted personnel are reflections of health problems facing all young people
- Military life presents opportunities and challenges that may protect and place young troops at risk for engaging in health damaging behaviors
- Preventable challenges for maintaining a healthy armed force include, sexually transmitted infections (STIs), unintended pregnancies (UIPs), alcohol abuse, and personal sexual violence that may increase risk for STIs and UIPs



## **Chlamydia in Army Recruits and Enlisted Personnel:**

- Chlamydia infection in males are common, but recommendations are limited to clinic patients who present with symptoms
  - 36% chlamydia positive at Ft. Bragg
- No screening recommendations for asymptomatic men
  - 5% chlamydia in 2,245 new Army male recruits at Fort Jackson, 5/98-6/98 (Cecil et al., 2001)
  - 5% chlamydia in 3,911 new Army male recruits at Fort Jackson, 7/99-7/00 (Arcari et al., 2004)

## **Chlamydia in Army Recruits and Enlisted Personnel:**

- Chlamydia is also prevalent in female Army Recruits\*\*
  - 9% chlamydia in 13,204 new female Army recruits at Fort Jackson, 1/96-12/97 (Gaydos, et al., 1998)
  - 10% chlamydia in 23,010 new female Army Recruits at Fort Jackson, 1/96-6/99 (Gaydos, et al.; 2003)

**\*\*Healthy People 2010 Goal is a 3% Prevalence**

## **Health Risks in Army Personnel: Reports from the 2002 DOD-wide Health Survey**

- 18% reported heavy alcohol use (2<sup>nd</sup> to Marines)\*\*
  - 33% of males, 6% of females aged 18-25 years
- 41% of males, 35% of females reported condom use at last sex
- 45% of unmarried personnel/5+ sexual partners in prior 12 months reported condom use at last sex

\*\* 4-5 drinks per typical occasion or 2-3 per month with 5+ drinks per occasion

## **Health Risks in Army Personnel**

- Little is known about the prevalence of personal sexual violence (rape and sexual assault), which increases the risk for STIs and UIPs
  - A study of Army soldiers found that 23% of female soldiers had a history of rape; 51% females and 7% of males had been sexually assaulted (mostly prior to military entry)
  - 1995 DOD-wide study found that 18% of female military personnel experienced sexual coercion and 5% experienced sexual assault, suggesting a reason for concern in Army personnel

## **Combating Health Risks in Army Personnel**

- Chlamydia and other STIs are prevalent in Army recruits and enlisted personnel and risk behaviors are prevalent
  - Screening and treatment of STIs are cost-effective in both civilian and military populations
  - Behavioral interventions hold promise for reducing risk of STIs and UIPs and providing skills to avoid alcohol abuse and personal sexual violence
- Health promotion activities have the potential to decrease attrition rates as well as positively impact health and readiness for the Army, thus saving thousands of dollars in medical care costs and costs for training additional new recruits

## **Preventing Sexually Transmitted Infections and Unintended Pregnancies in Army Personnel During Their 1<sup>st</sup> Year of Service: A Focus on Recruits**

**Funding:** United States Army Medical Research and Material Command, Fort Detrick, MD

**Purpose:** Prevent sexually transmitted infections (STIs), unintended pregnancies (UIPs) and reduce risk of alcohol abuse and future exposure to or involvement with personal sexual violence in Army personnel during their first year of military service

## **Preventing Sexually Transmitted Infections and Unintended Pregnancies in Army Personnel During Their 1st Year of Service: A Focus on Recruits**

### **Overview:**

- Voluntary participation of male and female Army Recruits

### **Study Design:**

- Screening and treatment of STIs at baseline and at one year, UIP screening at one year
- Self-administered surveys on health risks at baseline and at one year
- Participation in a 10-hour intervention (STI/UIP or nutrition and injury prevention interventions during recruit training)

## **Focus Groups Requirements (Phase One)**

**Purpose:** To better understand recruits and junior enlistees'

- Knowledge and attitudes about preventing STIs, UIPs, alcohol abuse
- Knowledge and attitudes about sexual violence and STI and UIP risk
- Attitudes about deployment and STI and UIP risk

**Requirement:** 7 groups, 2 hours each, 8-10 individuals/group, 1 classroom

- Female recruits (2 groups)
- Male recruits (2 groups)
- Co-ed junior enlisted soldiers (1 group)
- Female junior enlisted soldiers (1 group)
- Male junior enlisted soldiers (1 group)

**Timeline:** Completion by late September 2006

## **Intervention Requirements (Phase Two)**

**Number of Recruits:** 4,500 male and 2,000 female recruits randomly assigned by units to a STI/UIP prevention intervention or a nutrition and injury prevention intervention in a rolling fashion over a two-year period

**Time Commitment During Basic Training:** 11 hours, 10 minutes

- 1:00 for voluntary recruitment, consent and completion of the baseline questionnaire
- 0:10 for STI screening
- 10:00 hours (blocks of 1-2 hour sessions) to implement the education and skills training intervention

**Requirement:** 2-4 classrooms/session

**Timeline:** ~8 months after focus groups to allow for intervention development and Human Use (IRB) approval

## **Research Personnel, Contributions & Opportunities for Collaboration**

- Drs. Boyer and Shafer will have ultimate responsibility for carrying out this research project
- 6-8 onsite civilian staff will implement all phases of the project
- Onsite civilian staff will work with Fort Jackson staff to determine appropriate scheduling of research activities
- The project will provide STI screening for all study participants at baseline and at follow-up (a cost-savings of ~\$700,000)
- There will be numerous opportunities for Fort Jackson staff to collaborate in this health promotion effort

### **Prior Research with Marine Corps: Translation of Research to Practice**

- **Male Marine Corps Shipboard Study:**
  - Two videos were used for liberty briefs for all men on WestPac deployments, 1995- ?
  - Content information from the intervention was used for all Marine Corps required annual HIV prevention briefs, 1995- ?
  - Materials were used to train Preventive Medicine Technicians, 1996-?
  - Materials were used to train Marine Security Guards, HQMC, 1997- ?

### **Prior Research with Marine Corps: Translation of Research to Practice**

- **Female Marine Corps Recruits Study:**
  - Components of the intervention material were used for training female recruits regarding reproductive health issues both in the Well-Women's clinic and replaced some in required recruit training curricula, 2000- ?
  - Assisted Preventive Medicine staff at MCRD-Parris Island to develop their clinical screening skills when administering cervical swabs (Dr. Shafer)

**Appendix 1:** PowerPoint Brief: entitled: Preventing Health Risks in Army Enlisted Personnel During Their First Year of Service (15 slides)

## **Contact Information**

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**Appendix 2: Letter of Support from COL Thomas Hayden (1 page)**



**DEPARTMENT OF THE ARMY**  
HEADQUARTERS, UNITED STATES ARMY TRAINING CENTER AND FORT JACKSON  
OFFICE OF THE COMMANDING GENERAL  
FORT JACKSON, SC 29207

REPLY TO  
ATTENTION OF

November 7, 2006

Office of the Deputy Commanding Officer

Cherrie B. Boyer, PhD  
Professor  
Department of Pediatrics  
Division of Adolescent Medicine  
University of California, San Francisco  
3333 California Street, Suite 245, Box 0503  
San Francisco, CA 94143-0503

Dear Dr. Boyer:

This letter is to indicate my full support for your study entitled, "Preventing Health Damaging Behaviors in Army Recruits". I understand that the study will take place at Fort Jackson, in Columbia, SC, and will proceed through two phases: an initial focus group discussion phase and the actual implementation of a behavioral intervention to prevent sexually transmitted infections (STIs), unintended pregnancies, alcohol abuse, and personal sexual violence that may increase the risk for STIs and unintended pregnancies among Army recruits. This research will also include collection of biological specimens to screen for prevalent STIs. I understand that you will have a staff in place to implement all aspects of the study and will coordinate with our staff here at Fort Jackson to plan the logistics of this very important and practical research endeavor.

Sincerely,

A handwritten signature in black ink, appearing to read "Thomas W. Hayden", is written over a horizontal line.

Thomas W. Hayden  
Colonel, U.S. Army  
Deputy Commanding Officer